

## PROJECT DESCRIPTION

## GENERAL

THIS PROJECT INVOLVES THE FULL RECONSTRUCTION OF THE EXISTING TRAFFIC CONTROL SIGNAL AT THE INTERSECTION OF MD 118 (GERMANTOWN ROAD) AND THE NORTHBOUND I-270 (EISENHOWER MEMORIAL HIGHWAY) ON-RAMP IN MONTGOMERY COUNTY, MARYLAND. MD 118 IS ASSUMED TO RUN IN A NORTH-SOUTH DIRECTION.

## INTERSECTION OPERATION

THE INTERSECTION WILL CONTINUE TO OPERATE IN NEMA TWO PHASE, SEMI-TRAFFIC-ACTUATED MODE WITH THE MD 118 APPROACHES OPERATING EXCLUSIVELY. NORTHBOUND MD 118 THROUGH-TRAFFIC IS FREE-FLOW. LED COUNTDOWN PEDESTRIAN SIGNAL HEADS AND NEW PUSHBUTTON ACTUATION WILL BE INSTALLED ACROSS THE NORTHBOUND I-270 ON-RAMP. ALL PEDESTRIAN PUSHBUTTONS WILL BE APS. INTERSECTION LIGHTING WILL BE PROVIDED ON THE SOUTHWEST CORNER OF THE INTERSECTION. INTERCONNECT THAT CURRENTLY EXISTS TO THE SOUTHBOUND I-270 OFF-RAMP INTERSECTION WILL BE MAINTAINED.

NEW AUDIBLE, PUSHBUTTON-ACTUATED, PEDESTRIAN PHASES WILL BE PROVIDED ACROSS THE NORTHBOUND I-270 ON-RAMP.

APS MESSAGE FOR CROSSING THE NORTHBOUND I-270 (EISENHOWER MEMORIAL HIGHWAY) ON-RAMP:

A. WHEN PEDESTRIAN LOCATES AND PRESSES PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTON UNIT WILL ANNOUNCE "WAIT TO CROSS I-270 RAMP AT GERMANTOWN, WAIT".

B. WHEN WALK PHASE BEGINS, THE MESSAGE WILL BE A RAPID TICK WHICH WILL LAST FOR THE DURATION OF THE WALK PHASE.

## CONTROLLER REQUIREMENTS

A NEW TYPE 'S' BASE MOUNTED CABINET AND EIGHT-PHASE CONTROLLER WITH VIDEO INTERFACE EQUIPMENT, UNINTERRUPTIBLE POWER SUPPLY, AND 2 WIRE CENTRAL CONTROL UNIT WILL BE INSTALLED.

## EQUIPMENT LIST "A"

A. EQUIPMENT TO BE SUPPLIED BY SHA:

ITEM NO.	QUANTITY	UNIT	DESCRIPTION
900000	1	EA	CONTROLLER CABINET, SIZE "S" W/CTRL, VIDEO INT, 1-8 CAM
900000	1	EA	UPS EQUIPMENT FOR "S" CABINET
900000	17	SF	SHEET ALUMINUM MAST ARM / POLE MOUNTED SIGN
			- 2 EACH R3-5L (30"x36")
			- 2 EACH R10-3(1) (9"x15") "I-270 RAMP" - POLE MOUNTED
900000	47	SF	SHEET ALUMINUM GROUND MOUNTED SIGN
			- 1 EACH OM1-3 (18"x18")
			- 4 EACH W11-2 (36"x36")
			- 2 EACH W16-7pL (24"x12")
			- 2 EACH W16-7pR (24"x12")

## PROJECT CONTACTS

THE CONTACT PERSONS FOR SHA ARE AS FOLLOWS:

MS. ANYESHA MOOKHERJEE  
ASSISTANT DISTRICT ENGINEER - TRAFFIC  
PHONE: (301) 513-7404

MR. TOM FOUNTAIN  
ASSISTANT DISTRICT ENGINEER - MAINTENANCE  
PHONE: (301) 513-7304

MR. ED RODENHIZER  
CHIEF - SIGNAL SHOP  
PHONE: (410) 787-7650

MR. VICTOR GRAFTON  
DISTRICT UTILITY ENGINEER  
PHONE: (301) 513-7350

MS. CORREN JOHNSON  
CHIEF - TRAFFIC OPERATIONS DIVISION  
PHONE: (410) 787-7630

MR. MIKE STOCKER  
SUPPLY OFFICE IV (SIGNAL SHOP WAREHOUSE)  
PHONE: (410) 787-7696

MR. EUGENE BAILY  
CHIEF - SIGN OPERATIONS SECTION  
PHONE: (410) 787-7670

MR. PAUL WILSON  
PEPCO  
PHONE: (301) 548-4332

THE CONTACT PERSON FOR MCDPWT IS AS FOLLOWS:

MR. KAMUL HAMUD  
MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION  
PHONE: (240) 777-8761

VACANT  
MONTGOMERY COUNTY SIGNAL SHOP  
PHONE: (301) 279-1291

## EQUIPMENT LIST "B"

B. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY THE CONTRACTOR

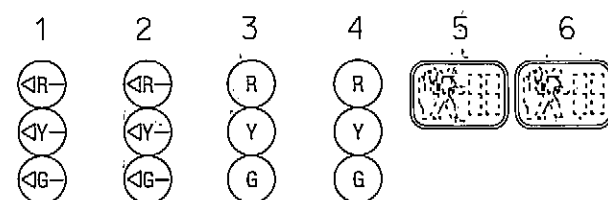
ITEM NO.	QUANTITY	UNIT	DESCRIPTION
100000	1	EA	MAINTENANCE OF TRAFFIC (PER INTERSECTION)
201032	16	CY	CLASS 2 EXCAVATION
203030	4	CY	TEST PIT EXCAVATION
585617	50	LF	5 INCH WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LINES
585621	200	LF	12 INCH WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LINES
585700	350	LF	REMOVAL OF EXISTING PAVEMENT MARKING LINES, ANY WIDTH
600000	140	LF	TYPE A COMBINATION CURB AND GUTTER ANY HEIGHT OR DEPTH
600000	200	LF	TYPE A CURB ANY HEIGHT OR DEPTH
655105	805	SF	5 INCH CONCRETE SIDEWALK
655120	70	SF	DETECTABLE WARNING SURFACE FOR CURB RAMPS
704345	50	SY	PLACING FURNISHED TOPSOIL 4 INCH DEPTH
708220	50	SY	TURFGRASS SOD ESTABLISHMENT
800000	1	EA	2-WIRE APS CENTRAL CONTROL UNIT
800000	1	EA	ANY SIZE LIGHTING ARM ON SIGNAL POLE WITH LED ROADWAY LUMINAIRE
800000	2	EA	AUDIBLE/TACTILE PEDESTRIAN PUSHBUTTON STATION AND SIGNS
800000	2	EA	16 INCH LED COUNTDOWN PEDESTRIAN SIGNAL HEAD
800000	3	EA	IP-BASED VIDEO DETECTION CAMERA & ANY LENGTH LEAD-IN CABLE
800000	2	EA	5 FOOT OR 10 FOOT PEDESTAL POLE WITH BREAKAWAY COUPLINGS, FOUNDATION & GROUND ROD
800000	1	EA	MAST ARM POLE & 70' MAST ARM ANY 'T' DIMENSION, FOUNDATION & GROUND ROD
800000	1	EA	100 AMP EMBEDDED METERED SERVICE PEDESTAL, CONCRETE COLLAR & GROUND RODS
800000	1	EA	REMOVE & DISPOSE OF EXISTING SIGNAL EQUIPMENT (PER SIGNALIZED INTERSECTION LOCATION)
800000	1	EA	INSTALL CONTROLLER AND CABINET BASE MOUNT (ANY SIZE) INCLUDING F&I FOUNDATION & GROUND ROD
800000	550	LF	1 - CONDUCTOR ELECTRICAL CABLE, NO. 2/0 AWG, TYPE THHN
800000	200	LF	ELECTRICAL CABLE - 3 CONDUCTOR (NO. 12 AWG) (B,W,G) TYPE TC
800000	50	LF	DISCONNECT, PULL-BACK & REROUTE CABLES
800000	200	LF	UP TO 4 INCH SCHEDULE 80 RIGID PVC CONDUIT - BORED OR SLOTTED
800000	200	LF	UP TO 4 INCH SCHEDULE 80 RIGID PVC CONDUIT-TRENCHED
800000	82	LF	WOOD SIGN SUPPORTS UP TO 4 INCH X 6 INCH
800000	64	SF	INSTALL OVERHEAD OR GROUND MOUNTED SIGN (INCLUDING ALL HARDWARE)
800000	1	EA	THIRD PARTY CONCRETE TESTING (PER INTERSECTION)
802501	400	LF	NO. 6 AWG STRANDED BARE COPPER GROUND WIRE
810022	60	LF	ELECTRICAL CABLE 1-CONDUCTOR NO. 8 AWG-THHN/THWN
811001	3	EA	FURNISH AND INSTALL ELECTRICAL HANDHOLE
860284	12	EA	12 INCH LED VEHICULAR TRAFFIC SIGNAL HEAD SECTION
861105	400	LF	ELECTRICAL CABLE - 2 CONDUCTOR (NO. 14 AWG)
861107	450	LF	ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 AWG)
861108	500	LF	ELECTRICAL CABLE - 7 CONDUCTOR (NO. 14 AWG)

## EQUIPMENT LIST "C"

C. EQUIPMENT TO BE REMOVED AND RETURNED TO SHA:

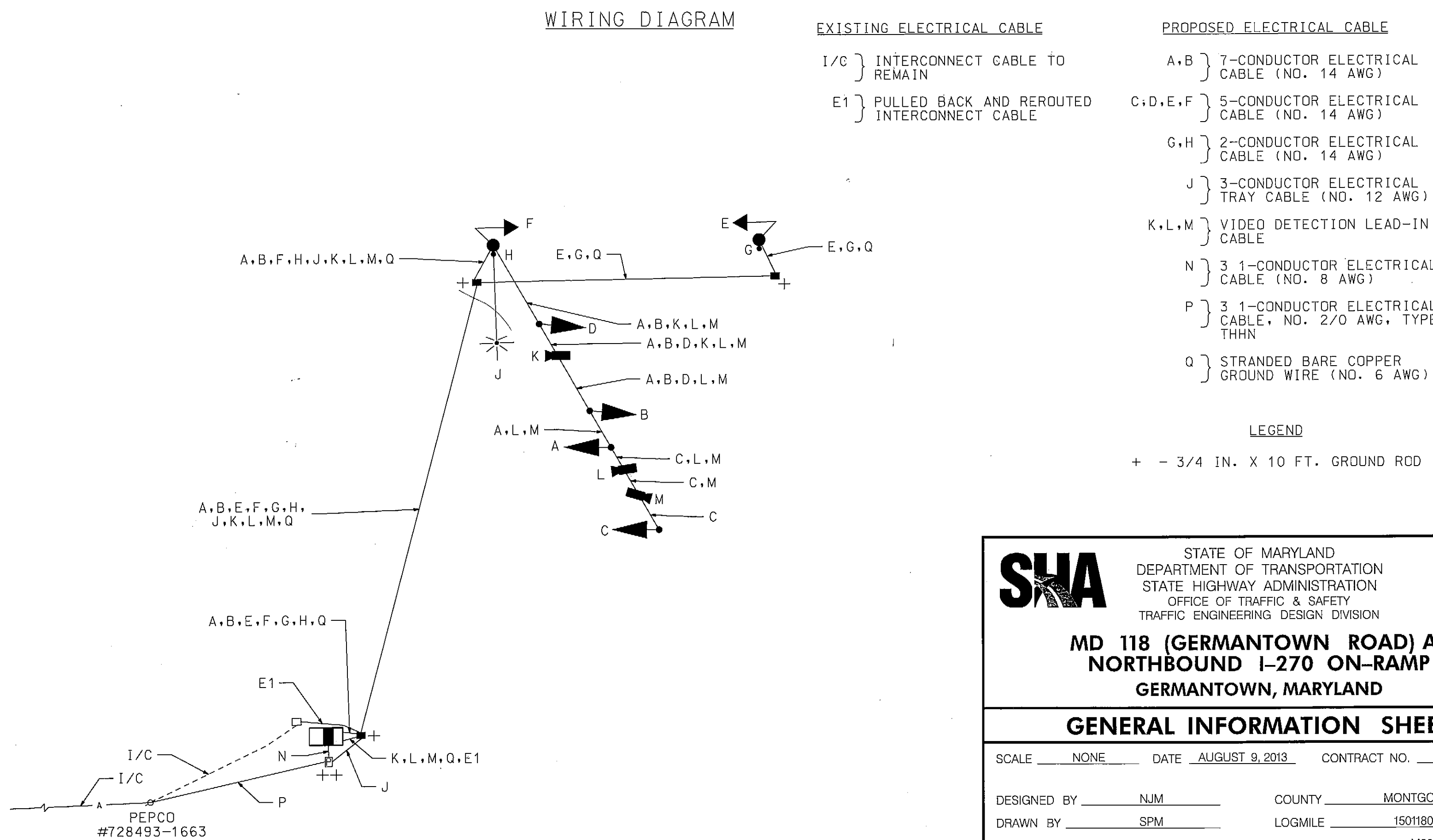
EXISTING SIGNAL CONTROLLERS AND ALL ASSOCIATED EQUIPMENT IN CABINETS.

## PHASE CHART



PHASE	1	2	3	4	5	6
PHASE 1	←G→	←G→	R	R	DW	DW
1 CHANGE	←Y→	←Y→	R	R	DW	DW
PHASE 2	←R→	←R→	G	G	W	W
PED CLEARANCE	←R→	←R→	G	G	FL/DW	FL/DW
2 CHANGE	←R→	←R→	Y	Y	DW	DW
FLASHING OPERATION	FL/←R	FL/←R	FL/Y	FL/Y	DARK	DARK

## WIRING DIAGRAM



STATE OF MARYLAND  
DEPARTMENT OF TRANSPORTATION  
STATE HIGHWAY ADMINISTRATION  
OFFICE OF TRAFFIC & SAFETY  
TRAFFIC ENGINEERING DESIGN DIVISION

**MD 118 (GERMANTOWN ROAD) AT  
NORTHBOUND I-270 ON-RAMP  
GERMANTOWN, MARYLAND**

## GENERAL INFORMATION SHEET

SCALE NONE DATE AUGUST 9, 2013 CONTRACT NO. XY2385185

DESIGNED BY NJM COUNTY MONTGOMERY

DRAWN BY SPM LOGMILE 15011806.37

CHECKED BY BSH T.I.M.S. NO. M005

F.A.P. NO. T.O.D. NO.

T.S. NO. 3418C-GI SG-03 OF SG-03 SHEET NO. 3 OF 3

PLOTTED: Friday, August 09, 2013 AT 01:17 PM  
FILE: L:\S212 - TEDD\23 (PB 151) - MD 118, MD 185 Signal\Design\Engineering\PlanSet\MD 118 at I-270 North Ramp (TS 3418)\pSG-N001\_T33418A.dgn

**McCormick  
Engineers & Planners  
Since 1946 Taylor**

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